

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:

Steven Teig, et al.

Serial No.: 10/040,054

Filing Date: 1/4/2002

For: METHOD AND APPARATUS FOR
STORING ROUTES

Examiner: Magid Dimyan

Group Art Unit: 2825

**NOTICE REGARDING PREVIOUSLY SUBMITTED INFORMATION
DISCLOSURE STATEMENT**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Applicants have submitted an Information Disclosure Statement on April 23, 2003. However, Applicants have not have not received an initialed Form PTO-1449 for the Information Disclosure Statement.

Please find attached, a copy of the Information Disclosure Statement (containing 87 references) submitted on April 23, 2003. The Information Disclosure Statement was submitted before the mailing of a first Office action. Accordingly, a fee was not required. Please also find attached a copy of the post card, which itemizes and properly identifies the IDS submitted on April 23, 2003. The post card is also stamped and shows the date of receipts by the USPTO as April 28, 2003. Accordingly, Applicants would appreciate the Examiner initialing and returning the Form PTO-1449, indicating that the information has been considered and made of record herein.

Applicants believe that no fee is required for this submission. However, in the unlikely event that the Commissioner determines that the fees for this submission is

required, Applicants petition and authorize the Commissioner to charge the cost of such fees due in connection with the filing of this document to **Deposit Account No. 50-3804** referencing **SPLX.P0047**.

Dated: September 11, 2006

Respectfully submitted,

By: /Ali Makoui/

Ali Makoui

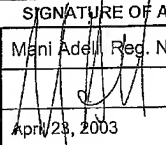
Registration No. 45,536

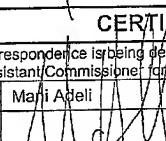
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PTO/SB/21 (6-98) (modified)
Approved for use through 09/30/00. OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

TRANSMITTAL FORM <i>(to be used for all correspondence after initial filing)</i>	Application Number	10/040,054
	Filing Date	1/4/02
	First Named Inventor	Steven Teig
	Group Art Unit	2661
	Examiner Name	<none yet>
Total Number of Pages in This Submission	*	Attorney Docket Number SPLX.P0047

Enclosures (Check all that apply)		
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declarations(s) <input type="checkbox"/> Preliminary Amendment <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Request to Rescind Previous Non-Publication Request <input checked="" type="checkbox"/> Information Disclosure Statement and PTO-1449 Certified Copy of Priority Documents <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Assignment Papers (for an application) <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund	<input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosures (Listed below): Postcard 87 References
Remarks:		
SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT		
Firm Or Individual name	Mari Adell, Reg. No. 39,585 of Stattler Johansen & Adell LLP	
Signature		
Date	April 23, 2003	

CERTIFICATE OF MAILING		
I hereby certify that this correspondence is being deposited with the United States Postal Services as first class mail in an envelope addressed to: Assistant/Commissioner for Patents, Washington, D.C. 20231 on this date: 4/23/03		
Typed or printed name	Mari Adell	
Signature		Date April 23, 2003

PATENT
Docket No. SPLX.P0047

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Manuel A. Celis

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:

Steven Teig

Serial No.: 10/040,054

Filing Date: 1/4/02

For: METHOD AND APPARATUS FOR
STORING ROUTES

INFORMATION DISCLOSURE
STATEMENT UNDER 37 C.F.R. § 1.97

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Pursuant to 37 C.F.R. § 1.97 and § 1.98, applicants submit for consideration in the above-identified application the documents listed on the attached Form PTO-1449. Copies of the documents are also submitted herewith. The Examiner is requested to make these documents of record. Applicants would appreciate the Examiner initialing and returning the Form PTO-1449, indicating that the information has been considered and made of record herein.

This Information Disclosure Statement is submitted within three months of the application filing date or before the mailing date of a first Office Action on the merits; accordingly, no fee or separate requirements are required.

This Information Disclosure Statement under 37 C.F.R. § 1.97 is not to be construed as a representation that: (i) a complete search has been made; (ii) additional information material to the examination of this application does not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the above information constitutes prior art to the subject invention.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 50-1128** referencing SPLX.P0047. However, the Assistant Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Dated: April 23, 2003

Respectfully submitted,

By: _____


Matt Adel
Registration No. 39,585

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Please type a plus sign (+) inside this box ☐App: J for use through 10/31/2002. OMB 0851-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Application Number	10/040,054
				Filing Date	1/4/02
				First Named Inventor	Steven Teig
				Group Art Unit	2661
				Examiner Name	
Sheet	1	of	1	Attorney Docket Number	SPLX.P0047

U.S. PATENT DOCUMENTS						
Examiner* Initials	Cite No.	U.S. Patent Document Number Kind Code ² (if known)		Name of Patentee or Applicant of Cited Document	Date of Publication MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1.	2001/ 0003843	A1	Scepanovic et al.	06-14-01	
	2.	4,615,011		Linsker	09-30-86	
	3.	4,673,966		Shimoyama	06-16-87	
	4.	4,782,193		Linsker	11-01-88	
	5.	4,855,929		Nakajima	08-08-89	
	6.	5,097,422		Corbin II et al.	03-17-92	
	7.	5,251,147		Finnerty	10-05-93	
	8.	5,281,151		Arima et al.	01-25-94	
	9.	5,360,948		Thornberg	11-01-94	
	10.	5,375,069		Satoh et al.	12-20-94	
	11.	5,532,934		Rostoker	07-02-96	
	12.	5,578,840		Scepanovic	11-26-96	
	13.	5,633,479		Hirano	05-27-97	
	14.	5,634,093		Ashida et al.	05-27-97	
	15.	5,636,125		Rostoker et al.	06-03-97	
	16.	5,650,653		Rostoker et al.	07-22-97	
	17.	5,657,242		Seklyama et al.	08-12-97	
	18.	5,723,908		Fuchida et al.	03-03-98	
	19.	5,742,086		Rostoker et al.	04-21-98	
	20.	5,757,656		Hershberger et al.	05-26-98	
	21.	5,777,360		Rostoker et al.	07-07-98	
	22.	5,811,863		Rostoker et al.	09-22-98	
	23.	5,822,214		Rostoker et al.	10-13-98	
	24.	5,859,449		Kobayashi et al.	01-12-99	
	25.	5,898,597		Scepanovic et al.	04-27-99	

Examiner Signature	Date Considered
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* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Application Number	10/040,054
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				First Named Inventor	Steven Teig
				Group Art Unit	2661
				Examiner Name	
Sheet	2	of	2	Attorney Docket Number	SPLX.P0047

U.S. PATENT DOCUMENTS					
	26.	5,914,887		Scepanovic et al.	06-22-99
	27.	5,973,376		Rostoker et al.	10-26-99
	28.	6,035,108		Kikuchi	03-07-00
	29.	6,058,254		Scepanovic et al.	05-02-00
	30.	6,067,409		Scepanovic et al.	05-23-00
	31.	6,068,662		Scepanovic et al.	05-30-00
	32.	6,123,736		Pavisc et al.	09-26-00
	33.	6,134,702		Scepanovic et al.	10-17-00
	34.	6,155,725		Scepanovic et al.	12-05-00
	35.	6,175,950	B1	Scepanovic	01-16-01
	36.	6,216,252	B1	Dangelo et al.	04-10-01
	37.	6,230,306	B1	Raspopovic et al.	05-08-01
	38.	6,247,167	B1	Raspopovic et al.	06-12-01
	39.	6,260,179	B1	Ohsawa et al.	07-10-01
	40.	6,262,487	B1	Igarashi et al.	07-17-01
	41.	6,289,495	B1	Raspopovic	09-11-01
	42.	6,301,686	B1	Kikuchi et al.	10-09-01
	43.	6,327,694	B1	Kanazawa	12-04-01
	44.	6,378,121	B2	Hiraga	04-23-02
	45.	6,385,758	B1	Kikuchi et al.	05-07-02
	46.	6,401,234	B1	Alpert et al.	06-04-02
	47.	6,405,358	B1	Nuber	06-11-02
	48.	6,412,097	B1	Kikuchi et al.	06-25-02
	49.	6,412,102	B1	Andreev et al.	06-25-02
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	51.	6,446,245	B1	Xing et al.	09-03-02
	52.	6,463,575	B1	Takahashi	10-08-02

Examiner Signature	Date Considered
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* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Application Number	10/040,054
				Filing Date	1/4/02
				First Named Inventor	Steven Teig
				Group Art Unit	2661
				Examiner Name	
Sheet	3	of	3	Attorney Docket Number	SPLX.P0047

U.S. PATENT DOCUMENTS						
	53.	6,516,455	B1	Teig et al.	02-04-03	
	54.	2003/0025 205	A1	Shively	02-06-03	

FOREIGN PATENT DOCUMENTS								
Examiner* Initials	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Office ^a	Number ^a	Kind Code (if known) ^b				
	55.	JP	64-15947		Ouchi	01-19-89		
	56.	JP	04000677		Fujiwara et al.	01-1992		

Examiner Signature		Date Considered	
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				First Named Inventor	Steven Teig
				Group Art Unit	2661
				Examiner Name	
Sheet	4	of	4	Attorney Docket Number	SPLX.P0047

NON PATENT LITERATURE DOCUMENTS

Examiner* Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	57.	A.H. Farrahi, et al., Quality of EDA CAD Tools: Definitions, Metrics and Directions, Quality Electronic Design, 2000, Proceedings of the first International Symposium on March 2000, pp 395-405.	
	58.	A. Vannelli, et al., An adaptation of the interior point method for solving the global routing problem, 2/1991, IEEE pp 193-203.	
	59.	B. Berger, et al., Nearly Optimal Algorithms and Bounds for Multilayer Channel Routing, Journal of the Association for Computing Machinery, pp. 500-542, March 1995.	
	60.	C. Chiang, et al., Wirability of Knock-Knee Layouts with 45° Wires, IEEE Transactions on Circuits and Systems, Vol. 38, Issue 6, pp 613-624, June 1991.	
	61.	G. Overton, EDA Underwriter 2 Finding Space in a Multi Layer Board, Electronic Engineering, Morgan-Grampian LTD, vol. 67, No. 819, pp 29-30.	
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	63.	J.D. Cho, et al., Four-Bend Top Down Global Routing, IEEE, pp 793-802, 1998.	
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	65.	J. Vicente, RSR: A New Rectilinear Steiner Minimum Tree Approximation for FPGA Placement and Global Routing, Proceedings of the 24 th Euro Micro Conference, pp 192-195, August 1998.	
	66.	K. Powers et al., The 60° Grid: Routing Channels in Width d/square root 3, VLSI, 1991, Proceedings., First Great Lakes Symposium on Kalamazoo, MI, USA, pp 214-291, March 1991.	
	67.	M. Alexander et al., Performance-Oriented Placement and Routing for field-programmable gate arrays, Proceedings of the European Design Automation Conference, pp 80-85, 1995.	
	68.	M. Alexander et al., Placement and Routing for Performance-Oriented FPGA Layout, VLSI Design, Vol. 7, No. 1, 1998.	
	69.	M. Igarashi et al., A Diagonal-Interconnect Architecture and Its Application to RISC Core Design, 2002 IEEE Solid-State Circuits Conference, pp 210-460, February 2002.	
	70.	P. Dood, et al., A Two-Dimensional Topological Compactor with Octagonal Geometry, 28 th ACM/IEEE Design Automation Conference, pp 727-731, July 1991	
	71.	P. Parakh, et al., Congestion Driven Quadratic Placement, Proceedings of Design Automation Conference, 1998, pp 275-278.	
	72.	R. Putatunda et al., VITAL: Fully Automatic Placement Strategies for Very Large Semicustom Designs, Proceedings of the International Conference on Computer Design: VLSI in Computers and Processors, pp 434-439 October 1988.	

Examiner Signature	Date Considered	
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				Group Art Unit	2661
				Examiner Name	
Sheet	5	of	5	Attorney Docket Number	SPLX.P0047

NON PATENT LITERATURE DOCUMENTS		
73.	S. Dutt, et al., Probability-Based Approaches to VLSI Circuit Partitioning, IEEE Trans. On Computer Aided Design of IC's and Systems, Vol. 19, No. 5, May 2000, pp 534-549.	
74.	Y. Sekiyama et al., Timing-Oriented Routers for PCB Layout Design of High-Performance Computers, International Conference on Computer Aided Design, pp 332-335, November 1991.	
75.	C. Leiserson et al., Algorithm for Routing and Testing Routability of Planar VLSI Layouts, pp 69-78, May 1985.	
76.	S. Das et al., Channel Routing in Manhattan-Diagonal Model, 9 th International Conference on VLSI Design, January 1996. pp 43-48.	
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78.	H. Chen, Routing L-Shaped Channels in Nonslicing-Structure Placement. 24 th ACM/IEEE Design Automation Conference, pp 152-165, 1987.	
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81.	E. Lodi et al., Routing in Times Square Mode, pp 41-48, June 1990.	
82.	K. Cheng-Kok et al., Manhattan or Non Manhattan? A Study of Alternative VLSI Routing Architectures. pp 47-52, 2000	
83.	E. Lodi et al., Routing Multiterminal Nets in a Diagonal Model, pp 899-902, 1988.	
84.	D. Staepelzere et al., Surf: A Rubber-Band Routing System for Multichip Modules. pp 18-26, 1993.	
85.	S. Das et al., Routing of L-Shaped Channels, Switch boxes and Staircases in Manhattan-Diagonal Model, pp 65-70m January 1998.	
86.	W. Schiele et al., A Gridless Router for Industrial Design Rule, 27 th ACM/IEEE Design Automation Conference, pp 626-631, 1990.	
87.	J. Nester, A New Look at Hardware Maze Routing, Proceedings of the 12 th ACM Symposium on Great Lakes Symposium on VLSI, pp 142-147, April 2002.	

Examiner Signature	Date Considered
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Serial/Patent No.: 10/040,054
Filing Date: 1/4/02
Atty Docket: SPLX.P0047
Applicant(s): Steven Teig

Atty/Secty: MA/si
Date Mailed: 4/23/2003

TITLE: Method and Apparatus for Storing Routes

The following has been received by the U.S. Patent & Trademark Office on the date stamped hereon:

1. Transmittal Form
2. Information Disclosure Statement (2 pages)
3. Form PTO-1449 (5 pages)
4. (87) cited references

